

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

*Ex parte* DONALD E. MOSIER

Appeal No. 2004-0569  
Application No. 09/654,306

ON BRIEF

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U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Before BARRETT, GROSS, and NAPPI, *Administrative Patent Judges*.  
NAPPI, *Administrative Patent Judge*.

**DECISION ON APPEAL**

This is a decision on appeal from the examiner's final rejection of claims 1 through 22, which are all of the claims pending in this application.

**THE INVENTION**

Appellant's invention relates to a method and apparatus to reduce electromagnetic emissions of a display by modulating the row driving signal, where the row driving signal has a different period for one row than for another row (see pages 1 and 2 of the

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specification). Claim 1 is illustrative of the claimed invention, and reads as follows:

1. An apparatus, comprising:

means for controlling a display; and

means for buffering input data received from a data source provided to said controlling means;

said controlling means being adapted to provide a modulated row driving signal to the display, wherein at least one frequency component of the modulated row driving signal is attenuated by the modulation such that emanated electromagnetic emissions are reduced, wherein the modulated row driving signal has a different period for one row than for another row.

#### **REFERENCES**

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Bassetti et al. (Bassetti)	5,757,338	May 26, 1998
Ito et al. (Ito)	6,252,573	Jun. 26, 2001 (filed Mar. 29, 1999)

#### **REJECTION AT ISSUE**

Claims 1-22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bassetti in view of Ito.

Reference is made to the Examiner's Answer (Paper No. 10, mailed September 8, 2003) for the examiner's complete reasoning

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in support of the rejections, and to Appellant's Brief (Paper No. 9, certification under 37 C.F.R. § 1.10 as being filed on July 3, 2003) for the appellant's arguments thereagainst.

#### **OPINION**

We have carefully considered the claims, the applied prior art references, and the respective positions articulated by appellant and the examiner. As a consequence of our review, we will affirm the obviousness rejection of claims 1 through 6, 8 through 10, and 12 through 22, and we will reverse the obviousness rejection of claims 7 and 11.

#### **GROUPING OF CLAIMS**

At the outset we note that the appellant states on pages 4 and 5 of the brief that the claims shall be grouped into 7 different groups, where the claims in each group stand or fall together. The appellant also requests, on page 5 of the brief, individual consideration "of each of the three groups herein described," and the appellant also states that the "separate patentability of groups 1-7 is discussed below in the Argument."

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37 C.F.R. § 1.192(c)(7) (July 1, 2003) as amended at 62 Fed. Reg. 53196 (October 10, 1997), which was controlling at the time of appellant filing the brief, states:

For each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and in the argument, under paragraph (c)(8) of this section, appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out the differences in what the claims cover is not an argument as to why the claims are separately patentable.

In the grouping of the claims section, on pages 4 and 5, and in the argument section, on pages 7 and 8, appellant points out the differences in what the claims cover, which are not separate arguments under 37 C.F.R. § 1.192(c)(7). Further, in the argument section, the appellant does not present separate arguments as to why the claims of one group are separately patentable over claims of another group. Instead, appellant groups all the independent claims 1, 8, 12, 21, 22, and each argument is directed to the group of independent claims. The arguments to the independent claims are presented under the same

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heading "The claims of Groups 1-7 are patentable under 35 U.S.C. § 103(a) over Bassetti in view of Ito because ...." A separate argument was presented for Groups 2 (claim 7) and 4 (claim 11) (see Brief, page 12), however, the appellant did not explain why the claims of Group 2 are believed to be separately patentable from the claims of Group 4.

We will, thereby, consider the appellant's claims in two groups. Group A consists of claims 1 through 6, 8 through 10, and 12 through 22, and we will consider claim 1 as representative of that group. Group B consists of claims 7 and 11, and we will consider claim 7 as representative for that group.

**Group A: Claims 1-6, 8-10, 12-22.**

***1) Arguments based on lack of teaching of claimed limitation by Bassetti in view of Ito.***

Claims 1-6, 8-10, and 12-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bassetti in view of Ito. The appellant argues on pages 9 and 10 of the brief that neither Bassetti nor Ito teaches or suggests the variation of the frequency and period of the row driving signal as claimed in claim 1, namely, that the modulated row driving signal has a different period for one row than for another row. The appellant

argues on page 9 of the brief, that because Bassetti "increases frequency during a first half of the horizontal line and decreases it during the latter half of the horizontal line to ensure a constant time period for each horizontal line to ensure that a constant row time is achieved," it follows that there is no teaching or suggestion for varying the period or the frequency of the row signal. In addition, the appellant, argues on pages 9 and 10 of the brief, that because Ito teaches "a row signal having the same period or frequency, for example, the frame period  $F$ ," and because Ito teaches that "the row signals have the same period of  $8\Delta t$ ," it means that both the period and the frequency of the row are constant and thus the signal period of each row is the same.

Before we consider the relevant teachings of the prior art, we must first determine the scope of the claims. Claims will be given their broadest reasonable interpretation consistent with the specification, limitations appearing in the specification will not be read into the claims. *In re Etter* 756, F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985).

The representative claim in Group A, namely, Claim 1, includes the limitation that the

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controlling means being adapted to provide a modulated row driving signal ... wherein at least one frequency component of the modulated row driving signal is attenuated by the modulation ... wherein the modulated row driving signal has a different period for one row than for another row.

We interpret this limitation to mean that there is a row driving signal that modulates the frequency component of the signal so that within one row (line) the frequency decreases, and that the period of one row is different than the period of another row. We also interpret period ( $T$ ), frequency ( $f$ ), and row time period ( $t$  or  $\Delta t$  or  $F$ ) to have their accepted, customary meaning as used in the field. Thus, we will assume that the relationship between frequency and period is the accepted one, namely, that one is the inverse of the other ( $f=1/T$ ), and that the row time period is the same as the frame time ( $F$ ). Also, the row time period is not the same as the signal period, for one measures the time for writing each row, and the other measures the time for one cycle of the signal within a row. Because frequency and period are related as inverse functions of each other, modulation of frequency is also modulation of the period. With this interpretation, we find that claim 1 includes a limitation that the frequency ( $1/\text{period}$ ) of the row signal begins modulation within a row and that the modulation period

( $1/\text{frequency}$ ) of the row signal is different from row to row, but no limitation as to the row time period.

Now we return to consider the relevant teachings in the art and the arguments presented by the appellant. We find that Bassetti (in Fig. 14, and col.15, lines 50-67, col.16, lines 1-7) teaches that the row driving signal is modulated in such a way as to have the frequency component of the driving signal attenuated ("frequency variations occur during a line", "periods of different pixels on a line vary," "the frequency decreases as the line is written") (col. 15, lines 56-65). Additionally, we find that Bassetti (col.15, lines 55-56) teaches that the period ( $1/\text{frequency}$ ) from one row to the other is the same, for there is no variation in the period ( $1/\text{frequency}$ ) and/or frequency ( $1/\text{period}$ ) component from row to row. In summary, we find that Bassetti teaches frequency modulation within the row but no different periods from row to row.

After careful consideration, we find that Ito discloses in Figs. 15A-15C, 16A-16B, col. 21, lines 31-62, col. 22, lines 1-11, that the row modulation signal is such that the frequency of each row is different from the frequency of another row ("[t]he applied voltage waveforms ... include different frequency



components") (col. 22, lines 5-10). Since the frequency is the inverse of the period, we conclude that Ito teaches that the driving signal of each row has a different period. Contrary to appellant's arguments, the fact that Ito teaches that the frame time  $F$  (or row time period) is the same in each row, has no bearing on this conclusion. As indicated *supra*, period ( $1/\text{frequency}$ ) is not the same as row time and thus, period ( $1/\text{frequency}$ ) is not the same as frame time. Since claim 1 does not include any limitation regarding the row time period, but only a limitation regarding the signal period ( $1/\text{frequency}$ ), whether or not the frame time  $F$  of Ito is constant is of no consequence to the rejection. The appellant seems to incorrectly equate the signal period ( $1/\text{frequency}$ ) with the row time. Further, the appellant, on pages 9 and 10 of the brief, seems to equate frequency, period and row time all at once with the frame period  $F$ . This, we find to be an incorrect interpretation of the customary meanings of signal frequency, period and row time period.

Hence, we find that Ito teaches row signal modulation whereby the period in one row is different from the period of another row.

***2) Arguments that the references teach away from including limitation of modulation signal having different period from one row to the other.***

The appellant argues, on pages 10 through 12 of the brief, that both Bassetti and Ito teach away from using a row modulation signal that has a different period in one row than in another row. Appellant argues that one who reads Bassetti would not consider changing the frequency or periods in each row, because Bassetti specifically teaches against doing so.

However, a careful reading of Bassetti reveals that the reason that Bassetti does not change the period of the row signal from row to row is, because in his case such a modulation will introduce image distortions. Image distortions will appear in a situation where the frequency (and thus the period) in each line does not take into consideration the sweep rate and the horizontal line rate. Although Bassetti teaches in col. 5, lines 6-20 that Fig. 5 is an idealized case, the frequency and thus the period is different from row to row, Bassetti does not use this modulation because the different frequencies considered create image distortions. Nevertheless, since Bassetti teaches the claimed modulation from row to row as the ideal case for reducing EMI, we find that one would not foreclose this solution without considering other frequencies. We find that the modulation

frequencies selected by Ito would not create these distortions. Ito teaches (col. 21, lines 31-38, col. 22, lines 5-10) that the row frequency (1/period) utilized in one row is an integer multiple of the frequency that is utilized in another row and thus, the image distortions that Bassetti is trying to eliminate are not present in Ito. Therefore, we find that Bassetti does not teach away from the claimed invention.

The appellant also argues that Ito is teaching away from having a row signal modulated so that the period is different from one row to another. However, as stated *supra*, we find that Ito does teach that the row signal is modulated from row to row. As such, we find that Ito does not teach away from the claimed invention.

We note that the appellant does not present arguments regarding the motivation to combine the references but rather argues that Bassetti and Ito teach away from the claimed invention. As stated *supra*, we are not convinced by this argument. Accordingly, we sustain the examiner's rejection of claims 1 through 6 and 8 through 11.

Only those arguments actually made by the appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief or by filing a

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reply brief have not been considered and are deemed waived by appellant. **See** 37 C.F.R. § 1.192(a). Support for this rule has been demonstrated by our reviewing court in *In re Berger*, 279 F.3d 975, 984, 61 USPQ 2d 1523, 1528-1529 (Fed. Cir. 2002) wherein the Federal Circuit Court stated that because appellants did not contest the merits of the rejections in his brief to the Federal Circuit Court, the issue was waived. **See also, In re Watts**, 354 F.3d 1362, 1368, 69 USPQ 2d 1453, 1458 (Fed. Cir. 2004).

**Group B: Claims 7 and 11.**

The appellant argues that neither Bassetti nor Ito teaches or suggests a display comprising an avionics display. We agree. We also find that they do not, and that the examiner has failed to establish a **prima facie** case of obviousness. Even though the examiner has stated, and the discussion in the "BACKGROUND" in the appellant's specification on page 1 clearly teaches motivation to use a system such as Bassetti's and Ito's in avionics applications, the examiner has not provided evidence that displays which require EMI reduction are used for avionics. In light of the fact that the examiner did not specifically apply



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